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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,921	01/19/2007	Mohamed Mejri	113072.tbd	7022
24395	7590	06/22/2010		
WILMERHALE/DC 1875 PENNSYLVANIA AVE., NW WASHINGTON, DC 20006			EXAMINER SWIFT, CHARLES M	
			ART UNIT 2191	PAPER NUMBER
			NOTIFICATION DATE 06/22/2010	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/572,921	<b>Applicant(s)</b> MEJRI ET AL.	
	<b>Examiner</b> CHARLES SWIFT	<b>Art Unit</b> 2191	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/16/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This is the initial Office Action based on the application filed on 3/21/2006.
2. Claims 1 and 2 are pending.

### ***Priority***

3. Priority is claimed to **PCT/JP04/13855 (9/22/2004)**, which claims further priority to **Japanese application 2003-330772 (9/22/2003)**, the priority is acknowledged by the examiner, and earliest effective filing date is **9/22/2003**.

### ***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: **"Software program generation method involves creating logic elements using and functional elements from declaration of word unit Lyee calculation technique"**.

### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1 and 2 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 1 and 2, they claim a software generation method. However the claim language merely recites a series of mental steps without claiming the associated computing hardware required for the execution and is therefore not statutory under 35 USC 101. The applicants are advised to amend the claim to include the computer hardware necessary to the execution of the method to overcome this rejection.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mejri et al. "Static Analysis on Lyee-Oriented Software". Found in "New Trends in Software Methodologies, Tools and Techniques" by Fujita et al, September 2002, IOS Press, pages. 375 – 394 (hereinafter Mejri, pages are renumbered to 1 – 21 in this rejection), in view of Negoro, "Principle of Lyee Software". International Conference on Information Society in 21st Century, Nov. 2000, pages 441 – 446 (hereinafter Negoro, pages are renumbered to 1 – 6 in this rejection).**

As per claim 1, Mejri discloses:

A software generation method comprising:

- a first step for making a statement (defining) a user requirement to be mounted as one program by a word name, a definition equation, conditions for executing the definition equation, input/output attributes, and an attribute of a value of a word for every logical unit and for every word of the logical unit; (Mejri page 3, first and second last paragraph under section 2.1, “Within the Lyee methodology requirements are given in a declarative way as a set of statements containing words together with their definitions, their calculation conditions and their attributes (input/output, types, and other attributes omitted within this paper for the sake of simplicity), as shown in Table 1. Let  $S_w$  be the statement defining the word  $w$ , then the requirements given in the Table 1, corresponding intuitively, in a traditional programming language, to the code given in Table 2.”, and Tables 1 and 2 on page 4)
- a second step for preparing, from said statement of the word unit, a signification vector ( $L_2, L_3, L_4$ ) and an action vector ( $I_2, O_4, S_4$ ) formed into a module as a process cell comprising an input/output channel by Lyee-calculus; (Mejri section 2.2, from page 5, paragraph 2 – page 6, last paragraph, “Let's give more precision about the structure and the content of the program that will be automatically generated by Lyee from requirements. Within the Lyee methodology, the execution of

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a set of statements, such the ones given in Table 1, is accomplished in a particular manner. In fact, Lyee distributes the code associated to statements over three spaces, called Pallets (W02, W03 and W04) in the Lyee terminology, as shown in Fig. 2. The pallet W02 deals with the input words, the pallet W03 computes the calculation conditions of the words and the results are saved in some Boolean variables. For instance, the condition 'b\*e>2' used within the definition of the word 'a' is calculated in W03 and the true/false result is saved in another variable 'a\_cond'. Finally, the pallet W04 deals with the calculation of the words according to their definition given within the requirements. It also outputs the value of the computed words. Starting from the pallet W04, a Lyee program tries to compute the values of all the defined words until a fixed point is reached. Once there is no evolution in W04 concerning the computation of the word values, the control is given to the pallet W02. In its turn, this second pallet tries repeatedly to input the missing words until a fixed point is reached (no others input are available) and then transfer the control to the pallet W03. Finally, and similarly to the pallet W04, the pallet W03 tries to compute the calculation conditions of

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the words according to the requirements until a fixed point is reached. As shown in Fig. 3, this whole process (W04 -> W03 -> W02) will repeat until a situation of overall stability is reached and it is called a Scenario Function. Besides, it is simple to see that the result of the execution of the program shown in Fig. 1 will be the same as the result of the one shown in Fig. 2. In addition, Lyee has established a simple elementary program with a fixed structure (called Predicate vector in the Lyee terminology) that makes the structure of whole generated code uniform and independently from the requirement content. The global program will be simple calls of predicate vectors. The structure of predicate vectors are shown in Fig.4. The goal of a predicate vector change from one pallet to another. For instance, in the pallet W04, the first goal is to give a value to a word according to its calculation definition. For the example shown in Fig. 2, the predicate vectors associated to the calculation of the word 'a' and the word 'b' are as shown in Fig. 5. Once there is no evolution in the calculation of the words, the Lyee generated code tries to output the words which will be the next goal. The predicate vector having the goal to output values is called output vector. In the pallet W02, we find two predicate

vectors having as a goal to associate values to input words. For the sake of simplicity, predicate vector dealing with inputs, outputs and the initialization of the memory will be omitted within other specific details. Finally, in the pallet W03, the goal of predicate vectors is to compute preconditions specified within requirements as shown in Fig. 6. Finally, the Lyee program associated to the requirements given in Table 1 is as shown in Table 3.” Also see page 7, figures 5 and 6, Note signification vector is the same as predicate vector of figure 4, and action vector is the same as scenario function in figure 1.)

- a third step for assembling said signification vector and said action vector into a set having set conditions that an interaction is caused by a command from an identical screen; (Mejri page 7, section 2.3, from page 7, last paragraph – page, last paragraph, “The Scenario Function presented in the previous section can be a complete program for a simple case of given requirements and specially when all the input and output words belong to the same screen and there is no use of any database. However, if we need to input and output words that belong to databases or to different screens interconnected together, then the situation will be a little complicated. For the sake of simplicity, we deal, in the sequel, only with the case when we have many screens.



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For instance, suppose that we have three interconnected screens, as shown in Fig. 7 allowing a user to navigate from one to another and in each one of them he can input, compute and output some words. Therefore, in the specification, the user has to give how these screens are interconnected. Furthermore, it is not convenient to define only one scenario function in which we compute all the words defined in all the screens. In fact, some screens may not be visited for a given execution of the program and then the computation of the value of their words will be a lost of time. For that reason, Lyee associates to each screen its own scenario function that will be executed only if this screen is visited. The scenario functions associated to screens are connected together showing when we move from one of them to another. In the Lyee terminology, many scenario functions connected together make up a Process Route Diagram as shown in Fig. 8. To sum up, according to the Lyee methodology, generally a program contains many process route diagrams. Each of them is a set of interconnected scenario functions and each scenario function contains three interconnected pallets W02, W03 and W04.”)

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Mejri did not expressly disclose:

- a fourth step for disposing one control function module .PHI. for every set;
- and a fifth step for disposing a control function module .PSI. being one for every said program.

However, Negoro teaches:

- a fourth step for disposing one control function module .PHI. for every set;  
(Negoro, page 5, right column, first paragraph under section F. "A triple of W04, W02 and W03 pallets is called a base structure. They are executed on a computer in a linear order of W04, W02 and W03. Termination of execution is judged in @02, and when execution of another base structure is required, it is done via W03. A program to control execution among the pallets is called the pallet control function.")
- and a fifth step for disposing a control function module .PSI. being one for every said program. (Negoro, page 5, right column, second paragraph under section F. "A program that controls pallet itself is called a pallet function. As the pallet function holds controlling rules.")

It would have been obvious for one of ordinary skill in the art at the time of invention to incorporate the teaching of Negoro into that of Mejri in order to disposing control functions to every set and every program. Both Negoro and Mejri reference disclose same invention (Principles of Lyee methodology) with varying level of details showed, it

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would be obvious to combine the two references together to show the complete invention as purposed first by Negoro.

As per claim 2, see claim 1 rejection above.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES SWIFT whose telephone number is (571)270-7756. The examiner can normally be reached on Monday through Thursday, 9:00AM to 6:00PM, Friday 10:30AM - 3:30PM, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on (571)272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHARLES SWIFT/  
Examiner, Art Unit 2191

/Wei Y Zhen/  
Supervisory Patent Examiner, Art Unit 2191